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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/932,456	08/16/2001	Richard R. Oehler	NWISP001	3395

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BEYER WEAVER & THOMAS LLP
P.O. BOX 778
BERKELEY, CA 94704-0778

EXAMINER

EL HADY, NABIL M

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 09/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/932,456

Applicant(s)

OEHLER ET AL.

Examiner

Nabil M El-Hady

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/7/03, 2/6/03, 2/19/04</u> | 6) <input type="checkbox"/> Other: _____ |

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1. Claims 1-41 are pending in this application.
2. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-13, 15, 16, 18-28, 30, 31, 33-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted prior Art, hereafter "AAPA" in view of Van Doren (US 2001/0037435).
 5. Van Doren is cited by the applicant in IDA paper filed 2/6/2003.
 6. AS to claim 1, AAPA discloses a computer system comprising: a plurality of resources including a plurality of processors (Fig. 2); a distributed point-to-point transmission infrastructure

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for interconnecting the plurality of processors (spec. page 2, lines 3-6), and at least one partitioning processor for configuring the plurality of resources into at least one partition (primary processor 202a, Fig. 2, spec. page 2, lines 17-21), each partition comprising a subset of the plurality of resources, the at least one partitioning processor being operable to configure the resources by writing to at least one of a plurality of routing tables associated with the processors (spec., page 2, lines 6-8, 18-21) according to a previously specified partitioning schema (discovery algorithm, spec. page 2, line 20), each routing table representing links between an associated processor and other ones of the plurality of processors, the links corresponding to portions of the point-to-point transmission infrastructure (spec., page 2, lines 6-8, 20-21).

7. AAPA is disclosing the previously specified partitioning schema as "greedy algorithm" that makes only one partition out of the plurality of resources, not a subset of the plurality of resources. Van Doren, on the other hand, discloses configuring a plurality of resources into at least one partition, each partition comprising a subset of the plurality of resources ([0011], [0015]; and [0046]). It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of AAPA and Van Dorn because Van Dorn's "non-greedy algorithm" for flexible configuration and partitioning of resources would allow seamless support for multiple operating systems executing in multi- resources system at the same time resulting in enhanced system functionality (see, Van Dorn, [0007]).

8. As to claim 23, the computer implemented method claim is rejected for the same reasons as claim 1 above.

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9. As to claims 36 and 37, the computer system claim is rejected for the same reasons as claims 1 and 23 above. In addition, AAPA discloses the at least one partitioning processor being operable to configure the resources by enabling at least one link between at least one of the plurality of processors and at least one other one of the plurality of processors according to a previously specified partitioning schema (through the routing tables).

10. As to claims 39 and 40, the computer implemented method claim is rejected for the same reasons as claims 1, 23, and 36 above.

11. As to claims 2, 3, and 24, AAPA includes at least one of a memory device, a memory range, an I/O bus, I/O devices coupled to an I/O bus, and an interrupt mechanism for routing interrupts, I/O switch, the I/O switch having one the routing tables associated therewith representing links between the I/O switch, at least one of the processors, and at least one I/O resource (inherent in Fig. 2).

12. As to claim 4, AAPA discloses the at least one I/O resource comprises at least one of an Ethernet device and a SCSI device (Fig. 2).

13. As to claim 5, Van Dorn discloses each routing table comprises a table of entries; each of selected ones of the entries associating an address of one of the resources with one of the processors and a link for connecting with the one of the processors (Fig. 5).

14. As to claims 6 and 25, AAPA and van Dorn do not specifically disclose the detail of the distributed point-to-point transmission infrastructure. However, it would have been obvious to

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one skilled in the art at the time of the invention that coherent or non-coherent Hyper Transport infrastructure is an inherent detail of the Hyper Transport architecture discloses AAPA (spec. page 2, lines 10-16). Van Dorn, also discloses the coherency or non-coherency of the infrastructure used in the system ([0031]).

15. As to claims 7 and 8, AAPA and Van Dorn do not specifically disclose the processors topology. However, it would have been obvious to one skilled in the art at the time of the invention that AAPA disclosure can support a variety of processor topologies specially if the routing tables are software programmable. The choice, then, of processor's topology is a matter of design preference.

16. As to claim 9, AAPA discloses the distributed point-to-point transmission infrastructure directly connects each of the processors with every other one of the processors (spec. page 2, lines 3-6).

17. As to claims 10, 21, and 26, AAPA discloses the at least one partitioning processor comprises at least one of the plurality of processors (primary processor 202a, Fig. 2).

18. As to claims 11 and 27, van Dorn discloses a separate partitioning entity from the plurality of processors ([0056]—0057)).

19. As to claim 12, AAPA discloses a boot memory for facilitating initialization of the computer system via at least one of the plurality of processors as the at least one partitioning processor (spec. page 2, lines 18-20).

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20. As to claims 13 and 28, AAPA discloses that the previously specified partitioning schema is generated in response to an event occurring during operation of the computer system (at initialization, spec. page 2, lines 18-21).

21. As to claims 16 and 31, AAPA discloses the at least one partitioning processor is operable to generate the routing tables upon initialization of the computer system (spec. page 2, lines 18-21).

22. As to claims 18, 19, 33, and 34, Van Dorn discloses the at least one partition comprises a plurality of partitions, a functional subset of the plurality of resources ([0011]; [0015]; and [0046]).

23. As to claims 20 and 35, AAPA discloses the at least one partition comprises a single partition including all operational ones of the plurality of resource (spec. page 2, lines 21-23).

24. As to claim 22, Van Dorn discloses the at least one partitioning processor comprises more than one partitioning processor ([0058]).

25. As to claims 38 and 41, Van Dorn discloses closing at least one switch associated with the at least one link according to the previously specified partitioning schema ([0033]).

26. Claims 14 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted prior Art, hereafter "AAPA" in view of Van Doren (US 2001/0037435) as

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applied to claims 1-13, 15, 16, 18-28, 30, 31, 33-41 above and further in view of Lorenzen et al. (US 6,188,759).

27. As to claims 15 and 30, AAPA and Van Dorn do not apparently disclose a user interface to specify the partitioning schema. Official notice is taken that the both the concept and advantages of providing an input from the user from a management interface is well known and expected in the art. It would have been obvious to one skilled in the art at the time of the invention to modify AAPA and Van Dorn teaching by adding a user interface with a link to the partitioning processor in order to allow a system management to set a partitioning schema in specific events as needed. This would add enhanced flexibility to AAPA and Van Dorn system.

28. Lorenzen et al. is cited by the applicant in IDA paper filed 2/6/2003.

29. As to claims 14, 17, 29, and 32, AAPA and Van Dorn do not disclose that the previously specified partitioning schema is generated in response to failure of at least one of the processors, a change in operating load associated with at least one of the resource, passage of a period of time, use of a particular software, and a change in available power resource.

Lorenzen, on the other hand, discloses dynamic generation to the specified partitioning (routing) schema while the system is in operation (col. 1, lines 45-46) in accordance to different events (col. 1, lines 60-65; col. 4, lines 5-11) and which obviously may include any variations of operational event.

30. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Galles et al (US 5,721,819); Ting (US 5,640,327); Skillen et al. (US 5,802,043); and Pauwels et al. (US 5,506,840).

31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nabil M El-Hady whose telephone number is (703) 308-7990. The examiner can normally be reached on 9:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (703) 305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 20, 2004


Nabil El-Hady, Ph.D, M.B.A.
Primary Patent Examiner
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